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**A CLOSE ARCHAEOASTRONOMIC READING ABOUT THE CUPMARKS**  
**OF THE HEMICYCLE TOMB IN SAS CONCAS (SARDINIA)**

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 Sas Concas - Lat. 40° 18' 54" N - Long. 09° 10' 21" E - elev. m 323

The hypogean "Tomba dell'Emiciclo" (2 700 B.C.) in the necropolis of Sas Concas (U.I.S.P.P., 1996) has many cultural elements which may concern Shamanism and archaeoastronomy; the first ones are the perimetrical sky-line and the large upturned anthropomorph (Fig.1) the upturned anthropomorphous crossing the sky-line (Fig.2) and the butterfly (Fig.3).



**Fig.1 - The perimetrical sky-line and the large upturned anthropomorph**



**Fig.2 - The upturned anthropomorphous crossing the sky-line**



**Fig.3 - The Butterfly and the perimetrical sky-line**

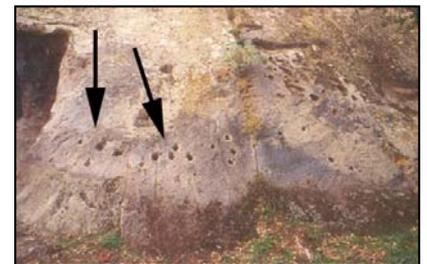
The second ones are some cup-marks in the internal walls and in the external walls of the tomb. The archaeological authorities did not yet closely examined all these images ("Rimane il problema di un loro corretto inquadramento culturale" - Fadda Maria Ausilia, Soprintendenza Archeologica di Nuoro, 1997). We think that the correct cultural framework for an overall comprehension of all of these cultural elements may be Shamanism. Shamanism was the religion of the Euro-asiatic area about 30 000 years, more than the permanency of Palaeolithic mythograms (Leroi-Gourhan, 1965) in the grottoes, that Julien Ries recognizes since 30 000 B.C. to 9 000 B.C. (Ries, 1998). Karl Narr recognizes that shamanism is a world-wide phenomenon and that its roots are in the prehistoric cultures of archaic hunters (Brusa-Zappellini, 1998). <Shamans recognized their "relative at the sky" in the celestial creatures who are the divine lords of the being, their ancestors> (Rappenglück, 1998). In Shamanism this is the so-called Transcendence concept, also defined "principle of Transformation" by Marija Gimbutas (Strep, 1994). This principle is disclosed in Sas Concas by the presence of the butterfly (the psycho-pump animal) (Bellatalla & De Toffol, 1999) and of the cup-marks representing the generating-constellations where, according to the shamanic vision, the spirits grow and descend from heaven to the earth. In spite of a clear reference to sky in shamanic cultures, the exact identification of all the cup-marks depicted in Tomba dell'Emiciclo presents some difficulties. However, for some of them the identification is straightforward by considering the orientation of the hypogeum and that usually the generating-constellations where circumpolar. Thus it is possible to recognize the constellation of Ursa Major (fig. 4) and of Cassiopeia (fig. 5) also outside the hypogeum (Fig. 6).



**Fig.4 - The Ursa Major's constellation**



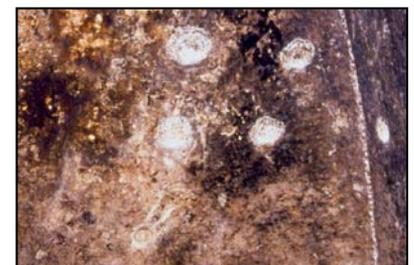
**Fig.5 - The Cassiopeia's constellation**



**Fig.6 - The Ursa Major and Cassiopeia constellations outside the hypogeum**

Notice that we have also considered the alternative hypothesis of Umi (as proposed to us by Andis Kaulins) but its rudder appeared in the opposite direction to that depict in the hypogeum. We have also found other asterisms that could be identified, with some probability, like Draco (external) and the stars Arcturus and Spica (internal). Another image with a tail could be a comet (or a meteor) which is, obviously, impossible to identify it (Fig.7). The same difficulty occurs when reading another unusual external image.

Moreover, the orientation of the hypogeum and the representation of Uma (using the program "Starry Night Pro" in the sky at solstices and equinoxes (as important moments of the year, well-known in shamanic cultures) we found that the orientation of Uma is compatible with its winter solstice position. This occurrence, verified during night-time for several centuries around 2 500 B.C., is in agreement with the archaeological dating. This large window of time convinced us that it was possible to have enough time to excavate such hypogeum in the trachitic tuff, thus the representation of the constellations cannot be considered as indicative of any particular time and date. In particular, within this window, the stars Megrez ( $\delta$  Uma) and Phad ( $\gamma$  Uma) had the same azimuth of Thuban ( $\alpha$  Draconis, at that time the Polar Star) like the image shown by the cup-marks of the "Hemicycle Tomb" at Sas Concas. It was possible to show that this result was credible by means of the observation that, at the same time, Cassiopeia was setting on the horizon. Indeed Cassiopeia is also represented in the same room in the hypogeum. The celestial tale becomes so complete that we may observe in the hypogeum the contemporary presence of UMa and Cassiopeia either in an internal or an external part of the tomb. Because it is not possible to represent a constellation under the horizon they have represented Cassiopeia in opposition ( $310^\circ / 130^\circ$ )?



**Fig.7 - The Ursa Major's constellation and a comet or a meteor?**

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